REMARKS

Reconsideration of the application is respectfully requested. This application has been reviewed in light of the Office Action dated May 23, 2002. Claims 1-32 are pending in the application with Claims 1, 13, 25 and 30 being in independent form. Claims 25-32 have been withdrawn from consideration due to a restriction requirement, and are canceled without prejudice in this amendment. Applicants reserve the right to claim the subject matter of canceled Claims 25-32 in future applications. New Claims 33-42 are added.

In the Office Action, Figure 4 was objected to because both reference characters "28" and "32" appear to point the nitride layer. A separate drawing page having corrected Figure 4 is attached. Reference number 28 now points to the first circuit system. The Office Action also states that the title is not descriptive. The title has been amended as suggested in the Office Action. Claims 9 and 21 were rejected under 35 U.S.C. §112 as being indefinite. Claims 1-7, 9-11, 13-19 and 21-23 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Pat. No. 5,200,631 issued to Austin et al. ("Austin"). Applicants gratefully acknowledge that the Examiner has found allowable subject matter in Claims 8, 12, 20 and 24.

I. Rejection of Claims 9 and 21 Under 35 U.S.C. §112

In the Office Action, the Examiner rejected Claims 9 and 12; however, Applicants believe that there was a typographical error in the Office Action and that the rejection is directed to Claims 9 and 21. Applicants have amended Claims 9 and 21 accordingly to overcome the rejection under 35 U.S.C. §112. Therefore Claims 9 and 21 are believed to be in proper form and allowance of Claims 9 and 21 is respectfully requested.

II. Rejection of Claims 1-7, 9-11, 13-19 and 21-23 Under 35 U.S.C. §102(b)

Independent Claim 1, as amended, recites "a microelectronic system comprising at least one package having at least one substrate having aligned global alignment marks

formed on an alignment pattern irradiated on the at least one substrate; and first and second circuit systems, each of said first and second circuit systems having means for wirelessly communicating with each other through said at least one substrate, wherein said first and second systems are aligned via said global alignment marks."

Independent Claim 13, as amended, recites "a circuitry package comprising at least one substrate having aligned global alignment marks formed on an alignment pattern irradiated on the at least one substrate; and first and second circuit systems, each of said systems having means for wirelessly communicating with each other through said at least one substrate, wherein said first and second systems are aligned via said global alignment marks for facilitating said wireless communication."

Austin is directed to an optoelectronic package with direct free space optical communication between pairs of optical transmitter and receiver devices located on different substrate surfaces in a closely spaced stack of chip carrying substrates. The devices are aligned so that a light beam from each transmitter follows an optical path toward its respective receiver. Alignment is accomplished by forming holes in each substrate. Devices arranged on a single substrate are aligned by positioning them at the top and the bottom of the holes. Substrates are aligned by aligning the holes of adjacent stacked substrates by inserting a pin through adjacent stacked holes.

Claims 1 and 13 are amended to include a concept of allowable Claims 8, 12 and 20, 24, respectively, which is believed to distinguish Claims 1 and 13 from the Austin. Specifically, Austin does not suggest or disclose a package having at least one substrate having aligned global alignment marks irradiated on the at least one substrate.

Therefore, independent Claims 1 and 13 are believed to be patentably distinct over Austin. Claims 2-12 and 14-24 depend from Claims 1 and 13, respectively, and therefore, for at least the same reasons given for independent Claims 1 and 13, Claims 2-12 and 14-24 are believed to be patentable over Austin, and the allowance of Claims 1-24 is respectfully requested.

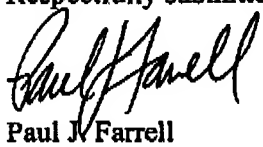
III. CONCLUSION

The specification has been amended for correction of the title as suggested by the Examiner. New Claims 33-42 have also been added. Support for the new claims is found in the figures and specification. It is believed that Claims 33-42 further distinguish over the prior art in addition to at least the reasons given for Claims 1 and 13.

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is in condition for allowance. Such early and favorable action is earnestly solicited. Attached is a marked-up version of the changes made to the claims by the current amendment according to 37 C.F. R. §1.121. The attached page is captioned "Version with Markings to Show Changes Made."

Should the Examiner have any questions concerning this communication or feel that an interview would be helpful, the Examiner is requested to call the undersigned at the number indicated below.

Respectfully submitted,



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Version with Markings to Show Changes Made

IN THE DRAWINGS

A separate drawing page having corrected Figure 4 is attached. Reference number 28 now points to the first circuit system.

IN THE TITLE:

Pease change the title on page 1 lines 1-2 as follows:

~~METHOD AND APPARATUS FOR GLOBALLY ALIGNING THE FRONT AND BACK SIDES OF A SUBSTRATE~~

SEMICONDUCTOR DEVICE UTILIZING ALIGNMENT MARKS FOR GLOBALLY ALIGNING THE FRONT AND BACK SIDES OF A SEMICONDUCTOR SUBSTRATE

IN THE CLAIMS:

Please amend Claims 1, 8-13, 20-24 as follows, and cancel Claims 25-32. New Claims 33-42 are not repeated here.

1. (Amended) A microelectronic system comprising at least one package having:

at least one substrate having aligned global alignment marks formed on an alignment pattern irradiated on the at least one substrate; and

first and second circuit systems, each of said first and second circuit systems having means for wirelessly communicating with each other through said at least one substrate, wherein said first and second systems are aligned via said global alignment marks.

8. (Amended) The microelectronic system according to Claim 1, wherein the package is fabricated by an alignment process which includes the step of:

providing a photoresist on a top and bottom side of a substrate of said at least one substrate;

irradiating said photoresist from at least one side of said [at least one] substrate to form [an]the alignment pattern on said top and bottom side of said [at least one] substrate;

etching said alignment pattern to form said global alignment marks on said top and bottom sides of said [at least one] substrate; and

providing at least one communication device on one side of said [at least one] substrate using at least one global alignment mark as a reference point.

9. (Amended) The microelectronic system according to Claim 1, wherein the first and second circuit systems include first and second interconnection structures for interconnecting [the] components of the first and second circuit systems, respectively.

10. (Amended) The microelectronic system according to Claim 8, wherein the first and second interconnection structures are connected to [a] the at least one substrate.

11. (Amended) The microelectronic system according to Claim 1, wherein the at least one substrate [includes] is aligned via said global alignment marks for aligning [the] a substrate of the at least one substrate with global alignment marks of another substrate.

12. (Amended) The microelectronic system according to Claim 1, wherein the circuitry package is fabricated by an alignment process which includes the steps of:

providing an opaque layer on one side of a substrate of said at least one substrate;

providing a photoresist on said opaque layer on one side of said [at least one] substrate;

irradiating said photoresist from at least the one side of said [at least one] substrate to form a first alignment pattern of said alignment pattern on said one side of said [at least one] substrate;

etching said first alignment pattern to form a first set of global alignment marks of said global alignment marks on said one side of said [at least one] substrate;

providing a photoresist on the other side of said [at least one] substrate;

irradiating said first alignment pattern from at least the one side of said [at least one] substrate to form a second alignment pattern of said alignment pattern on the other side of said [at least one] substrate;

etching said second alignment pattern to form a second set of global alignment marks of said global alignment marks on the other side of said [at least one] substrate, wherein the first and second sets of global alignment marks align with respect to each other; and

providing at least one communication device on said one side of said [at least one] substrate using at least one global alignment mark from the first and second sets of global alignment marks as a reference point.

13. (Amended) A circuitry package [having] comprising:

at least one substrate having aligned global alignment marks formed on an alignment pattern irradiated on the at least one substrate; and

first and second circuit systems, each of said systems having means for wirelessly communicating with each other through said at least one substrate, wherein said first and second systems are aligned via said global alignment marks for facilitating said wireless communication.

20. (Amended) The circuitry package according to Claim 13, wherein the package is fabricated by an alignment process which includes the step of:

providing a photoresist on a top and bottom side of a substrate of said at least one substrate;

irradiating said photoresist from at least one side of said [at least one] substrate to form [an]the alignment pattern on said top and bottom side of said [at least one] substrate;

etching said alignment pattern to form said global alignment marks on said top and bottom sides of said [at least one] substrate; and

providing at least one communication device on one side of said [at least one] substrate using at least one global alignment mark as a reference point.

21. (Amended) The circuitry package according to Claim 13, wherein the first and second circuit systems include first and second interconnection structures for interconnecting [the] components of the first and second circuit systems, respectively.

22. (Amended) The circuitry package according to Claim 21, wherein the first and second interconnection structures are connected to [a] the at least one substrate.

23. (Amended) The circuitry package according to Claim 13, wherein the at least one substrate [includes] is aligned via said global alignment marks for aligning the a substrate of the at least one substrate with global alignment marks of another substrate.

24. (Amended) The circuitry package according to Claim 13, wherein the circuitry package is fabricated by an alignment process which includes the steps of:

providing an opaque layer on one side of a substrate of said at least one substrate;

providing a photoresist on said opaque layer on one side of said [at least one] substrate;

irradiating said photoresist from at least the one side of said [at least one] substrate to form a first alignment pattern of said alignment pattern on said one side of said [at least one] substrate;

etching said first alignment pattern to form a first set of global alignment marks of said global alignment marks on said one side of said [at least one] substrate;

providing a photoresist on the other side of said [at least one] substrate;

irradiating said first alignment pattern from at least the one side of said [at least one] substrate to form a second alignment pattern of said alignment pattern on the other

side of said [at lcast one] substrate;

etching said second alignment pattern to form a second set of global alignment marks of said global alignment marks on the other side of said [at least one] substrate, wherein the first and second sets of global alignment marks align with respect to each other; and

providing at least one communication device on said one side of said [at least one] substrate using at least one global alignment mark from the first and second sets of global alignment marks as a reference point.